Brilliant Light – YLED-1F
For Diagnostic and Examination
Brilliant Light for Diagnostic and Examination

For decades, MAVIG has set standards in the field of radiation protection and medical suspension systems. This also goes for our long-standing partner company Dr. Mach and their core competence in lighting technology for medical applications.

Both companies are family-owned, producing in Germany with a high level of vertical manufacture, demanding highest quality standards combined with product functionality.

The YLED-1F complements the MAVIG portfolio of the established Portegra2 modular ceiling suspension system with an easy-to-use examination light.

The latest generation of luminaires with LED technology (light-emitting diode) makes it easier for users to work concentrated for long periods without fatigue. The YLED-1F is designed to reveal the slightest difference in colour and tissue structure of the wound field. This is achieved without perceivable warming of the housing or the wound area.

In addition, the YLED-1F impresses with its practical “plug and play” installation, an integrated wide-range power supply, a lifetime of at least 60,000 hours for the LED module, and low energy consumption. These features increase economic efficiency in comparison to existing lighting solutions.

The advantages of established lighting technologies such as halogen and gas discharge lamps have been retained: natural colour reproduction, precise illumination of the wound area, and easy positioning of the lamp.
ACCORDING TO STATE OF THE ART TECHNOLOGY

Advantages of the YLED-1F

The YLED-1F combines state-of-the-art LED technology with a high degree of functionality and therefore offers a wide range of possible applications.

**Integrated Power Supply**
By using an integrated power supply, the YLED-1F can be connected directly to the local power supply (100-240 VAC).

**High Energy Efficiency**
LEDs use electricity considerably more efficiently than conventional light sources. They consume only about 10% of the energy used by lamps of comparable power and reduce the maximum power consumption of the YLED-1F below 24 VA.

**Less Heat**
LEDs generate considerably less heat than incandescent lamps. Furthermore, they generate very little UV and infra-red light. Lights with LED light sources therefore remain cool and only minimally heat the illuminated area, such as that around the patient’s wound.

**Quickly Ready to Use**
LEDs switch on without delay and generate their full lighting output immediately.

**Long Life**
With a continuous illumination time of at least 60,000 hours, or six and a half years, MAVIG LEDs have an enormously long lifetime, and therefore help to protect the environment.

**Hazardous Substances**
In contrast to energy saving lamps, LEDs do not contain mercury.

**Robustness and Protection**
LEDs are resistant to physical impact. This makes them suitable for environments that require robust mechanical features. The YLED-1F fulfills the fire protection class V0 and the protection class IP44.

**Excellent Durability**
LEDs typically do not show any sudden failure. Instead, the light intensity of an LED decreases only very slowly.

---

**YLED-1F Technical Data**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special Feature</strong></td>
<td>• Integrated wide-range power supply</td>
</tr>
<tr>
<td></td>
<td>(100-240 VAC, 50 - 60 Hz)</td>
</tr>
<tr>
<td><strong>Energy Efficiency</strong></td>
<td>• Power consumption 24 VA</td>
</tr>
<tr>
<td><strong>Temperature Increase</strong></td>
<td>• In the head area 0.5 K</td>
</tr>
<tr>
<td><strong>High Comfort - Full Illumination</strong></td>
<td>Central light intensity 70,000 Lux (at 1 m distance)</td>
</tr>
<tr>
<td><strong>LED Module</strong></td>
<td>• Lifetime ≥ 60,000 hours</td>
</tr>
<tr>
<td><strong>Hazardous Substances</strong></td>
<td>• RoHS compliant according to EU Directive 2011/65/EU</td>
</tr>
<tr>
<td><strong>Robustness</strong></td>
<td>• Protection level IP44 (protects against splash water)</td>
</tr>
<tr>
<td></td>
<td>• Fire protection class V0</td>
</tr>
<tr>
<td><strong>Medical Product</strong></td>
<td>• Complies with (EU) 2017/745 MDR for Medical Devices</td>
</tr>
<tr>
<td></td>
<td>• DIN VDE 0100-710 for rooms used for medical purposes</td>
</tr>
<tr>
<td></td>
<td>• Approvals: CE / NRTL</td>
</tr>
<tr>
<td><strong>Freedom of Design</strong></td>
<td>• Optimised housing design for 17 LED modules</td>
</tr>
</tbody>
</table>
YLED-1F

The compact YLED-1F contains 17 powerful LED modules. All modules provide a combined light intensity of 70,000 Lux. In addition, a wide range power supply is integrated into the housing. This integrated power supply enables you to save space and time by means of simple installation.

Regardless of whether it is ceiling or wall-mounted, the tried-and-tested MAVIG Portegra2 system is ideal for suspending the YLED-1F (and other medical devices). Thanks to its great flexibility as a modular system with many safety features, it can be optimally adapted to a wide range of applications.

The YLED-1F therefore covers a wide range of applications, from diagnoses to medical examination procedures. It is intuitively controlled by means of the side-mounted control panel and the sterilisable handle.

Designed for utmost performance and to meet stringent requirements, the YLED-1F can be daily used by physicians or specialists, in hospitals or in outpatient surgery centres. It always keeps a “cool head”, because the heat radiation from the YLED-1F is reduced to a minimum.

With the use of considerably more efficient LEDs from the latest generation and a lamp life of at least 60,000 hours, the costs for electricity and lamp replacements are greatly reduced.

Equipped with the Latest Technology

With an excellent colour rendering index of Ra = 95, users can easily identify the most subtle nuances of colour and structures in the wound area. Therefore, the colour spectrum of the wound area appears more natural and with greater contrast. Moreover, the light itself is more pleasant for the users eyes.

Faceted lenses: Computer-optimised, they enable a very uniform light distribution and a minimum shadowing in the field of illumination. Separately arranged optics on each LED module enable the best possible overlap of the individual fields of illumination. This increases the contrast and the identification of details and achieves the best possible visual perception of the wound area.

Focusing: By rotating the sterilisable handle, the diameter of the field of illumination can be precisely adapted or focused to the particular size of the wound. This enables the user to freely select the required intensity of illumination precisely in various working levels. Therefore, the wound area is optimally illuminated even during complex examinations.

The result: Excellent illumination of local body areas and precise and effective support for the diagnosis and treatment of patients.
Sterilisable handle for convenient positioning and focusing

Free 360° rotation at the connection to the Portegra2 ceiling system

Faceted lenses for uniform light distribution

Lamp housing with integrated wide-range power supply

Housing protection class IP-44

Intuitive control panel
**Technical Data and Specifications**

**YLED-1F**
Diagnostic and examination light with integrated wide range power supply and faceted multiple lens system for minimum shadowing in the field of illumination.

<table>
<thead>
<tr>
<th>Model</th>
<th>YLED-1F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central light intensity (at 1 m distance)</td>
<td>70,000 lx</td>
</tr>
<tr>
<td>Colour temperature</td>
<td>4100 ± 200 K</td>
</tr>
<tr>
<td>Colour rendering index R\textsubscript{a} at 4100 Kelvin (CRI)</td>
<td>95</td>
</tr>
<tr>
<td>Focusable light field size</td>
<td>140 - 250 mm</td>
</tr>
<tr>
<td>Electronic brightness control</td>
<td>50% - 100% (incl. endoscopy light function)</td>
</tr>
<tr>
<td>Sterilisable handle</td>
<td>✓</td>
</tr>
<tr>
<td>Temperature increase in head area</td>
<td>0.5 K</td>
</tr>
<tr>
<td>Power consumption (total)</td>
<td>24 VA</td>
</tr>
<tr>
<td>Mains voltage and frequency</td>
<td>100 - 240 VAC at 50 - 60 Hz</td>
</tr>
<tr>
<td>Number of LED modules</td>
<td>17</td>
</tr>
<tr>
<td>Lifetime of LEDs</td>
<td>≥ 60,000 h</td>
</tr>
<tr>
<td>Working area</td>
<td>70 - 140 cm</td>
</tr>
<tr>
<td>Height adjustment (on Portegra2 spring arm)</td>
<td>117 cm</td>
</tr>
<tr>
<td>Lamp dimensions</td>
<td>28 x 36 cm</td>
</tr>
<tr>
<td>Housing colour</td>
<td>RAL 9002</td>
</tr>
<tr>
<td>Weight YLED-1F</td>
<td>2.4 kg</td>
</tr>
<tr>
<td>Hazardous substances (EU Directive 2011/65/EU)</td>
<td>RoHS compliant</td>
</tr>
<tr>
<td>Housing - Protected against splashed water</td>
<td>IP44</td>
</tr>
<tr>
<td>Fire protection class</td>
<td>V0</td>
</tr>
<tr>
<td>Medical Device - (EU) 2017/745 MDR</td>
<td>✓</td>
</tr>
<tr>
<td>Use according to DIN VDE 0100-710</td>
<td>✓</td>
</tr>
<tr>
<td>Approvals</td>
<td>CE / NRTL</td>
</tr>
</tbody>
</table>
Further Examination and Surgery Lights in the MAVIG Portfolio

Technical Data / Specifications

**LED120F**
Small LED examination light for diagnosis, with electronic brightness control and easy focusing via the handle.

- **Model**
  - Central light intensity (at 1 m distance): 50,000 lx
  - Colour rendering index $R_a$ at 4500 Kelvin: 95
  - Focussable light field size: 150 - 200 mm
  - Electronic brightness control: 50% - 100%
  - Temperature increase in head area: 0.5 K
  - Power consumption (total): 18 VA
  - Number of LEDs: 12
  - Lifetime of LEDs: > 60,000 h
  - Working area: 70 - 140 cm
  - Height adjustment (at Portegra2 spring arm): 117 cm
  - Lamp diameter: 29 cm

**LED150F**
LED examination and small surgery light, with electronic brightness control and easy focusing via the handle.

- **Model**
  - Central light intensity (at 1 m distance): 110,000 lx
  - Colour rendering index $R_a$ at 4500 Kelvin: 96
  - Focussable light field size: 180 - 250 mm
  - Electronic brightness control: 50% - 100%
  - Temperature increase in head area: 0.5 K
  - Power consumption (total): 35 VA
  - Number of LEDs: 26
  - Lifetime of LEDs: > 60,000 h
  - Working area: 70 - 140 cm
  - Height adjustment (at Portegra2 spring arm): 117 cm
  - Lamp diameter: 40 cm

**LED2 SC**
Small single colour surgery light with faceted multiple lens system for minimum shadowing in the field of illumination.

- **Model**
  - Central light intensity (at 1 m distance): 115,000 lx
  - Colour rendering index $R_a$ at 4500 Kelvin: 95
  - Focussable light field size: 170 - 280 mm
  - Electronic brightness control: 50% - 100%
  - Temperature increase in head area: 0.5 K
  - Power consumption (total): 30 VA
  - Number of LEDs: 21
  - Lifetime of LEDs: > 60,000 h
  - Working area: 60 - 150 cm
  - Height adjustment (at Portegra2 spring arm): 117 cm
  - Lamp diameter: 49 cm

**LED3 SC**
Single colour LED surgery light with faceted multiple lens system for minimum shadowing in the field of illumination.

- **Model**
  - Central light intensity (at 1 m distance): 160,000 lx
  - Colour rendering index $R_a$ at 4500 Kelvin: 95
  - Focussable light field size: 170 - 280 mm
  - Electronic brightness control: 50% - 100%
  - Temperature increase in head area: 0.5 K
  - Power consumption (total): 56 VA
  - Number of LEDs: 28
  - Lifetime of LEDs: > 60,000 h
  - Working area: 60 - 150 cm
  - Height adjustment (at Portegra2 spring arm): 117 cm
  - Lamp diameter: 57 cm

**LED6**
Surgery light with LED technology, multi-colour function for adjusting the colour of the light, optional laser pointer (L) or camera preparation (KV) and shadow management (S).

- **Model**
  - Central light intensity (at 1 m distance): 160,000 lx
  - Colour rendering index $R_a$ at 4500 Kelvin: 95
  - Focussable light field size: 180 - 300 mm
  - Electronic brightness control: 50% - 100%
  - Temperature increase in head area: 0.5 K
  - Power consumption (total): 87 VA
  - Number of LEDs: 69
  - Lifetime of LEDs: > 60,000 h
  - Working area: 60 - 150 cm
  - Height adjustment (at Portegra2 spring arm): 117 cm
  - Lamp diameter: 58 cm

**LED6 (L) / LED6 (KV) / LED6 (KVS)**

- **Model**
  - Central light intensity (at 1 m distance): 160,000 lx
  - Colour rendering index $R_a$ at 4500 Kelvin: 98
  - Focussable light field size: 180 - 300 mm
  - Electronic brightness control: 50% - 100%
  - Temperature increase in head area: 0.5 K
  - Power consumption (total): 92 VA
  - Number of LEDs: 66
  - Lifetime of LEDs: > 60,000 h
  - Working area: 60 - 150 cm
  - Height adjustment (at Portegra2 spring arm): 117 cm
  - Lamp diameter: 58 cm